

5 CUMULATIVE IMPACTS

Section 15130 of the State CEQA Guidelines requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is *cumulatively considerable*. According to State CEQA Guidelines Section 15065, "Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects as defined in Section 15130." Sections 15130 and 15355 of the State CEQA Guidelines both stress cumulative impacts in the context of *closely related* projects and from projects *causing related impacts*.

The term *considerable* is subject to interpretation. The standards used herein to determine whether an effect is considerable are that either the impact of the proposed project would contribute in any manner to the existing significant cumulative impact, or the cumulative impact would exceed an established threshold of significance when the proposed project's incremental effects are combined with similar effects from other projects.

This EIR uses the list method for its cumulative impact analysis. As directed in Section 15130(b)(1)(a) of the State CEQA Guidelines, the EIR must consider "past, present, and probable future projects producing related or cumulative impacts." The environmental influences of past projects and present projects that have been implemented already exist as a part of current conditions in the project area. Therefore, the contributions of past and present projects to environmental conditions are adequately captured in the description of the existing setting and need not be specifically listed here. This cumulative impact analysis focuses on the potential cumulative physical changes to the existing setting that could occur as a result of a combination of this proposed habitat restoration and outdoor recreation facilities development project and probable future projects. Probable future projects considered in this analysis are included below in Table 5-1.

5.1 CUMULATIVE EFFECTS OF PROPOSED AND SIMILAR PROJECTS PLANNED WITHIN THE STUDY AREA

This cumulative impact analysis examines the combined effects of comparable restoration and/or recreation projects; urban development projects are not included because they are not part of the management strategy for lands within the Inner River Zone and the Sacramento River Conservation Area (SRCA) planning area. (Refer to Chapter 3, "Description of the Proposed Project," for an overview of management of lands along the middle reaches of the Sacramento River.) Three projects with goals that match or are similar to those of the proposed project are planned to occur in the study area in the reasonably foreseeable future; these projects are listed in Table 5-1.

Table 5-1 Similar Planned Projects in the Study Area				
Project Planned for Restoration or Recreation Facility Development	Owner	River Mile	Approximate Acres Planned for Restoration	Planned Date of Completion
Hamilton City Flood Damage Reduction and Ecosystem Restoration	USACE	Generally between RM 194 and RM 201	1,500	2012
Sacramento River – Chico Landing Subreach Habitat Restoration (Pine Creek, Capay, and Dead Man's Reach Units)	USFWS	RM 199, 194, and 186	836	2009
Brayton Orchard – Habitat Restoration and Recreation Facilities Development	State Parks	RM 196 (west side of River Road, north of West Sacramento Ave.)	41	2011
Total Restoration Acreage			2,377	
Source: TNC and State Parks 2007				

The USACE and the Reclamation Board are completing the project engineering and design phases required to implement the Hamilton City project, which will involve replacing an existing flood control levee with a setback levee and restoring approximately 1,500 acres of native riparian habitat.

The Sacramento River-Chico Landing Subreach Habitat Restoration Project is currently being implemented as part of USFWS management of lands within the Sacramento River National Wildlife Refuge (SRNWR), a portion of which is located in proximity to the project site, between the Irvine Finch and Pine Creek Landing subunits of BSRSP. A Comprehensive Conservation Plan (CCP) for the SRNWR guides management of the SRNWR for the next 15 years. The SRNWR's mission is to preserve, restore, and enhance riparian habitat for threatened and endangered species, and other wildlife and vegetation.

The third project is very similar to the proposed project. State Parks has proposed habitat restoration and recreation facilities development on the 41-acre Brayton Orchard property within BSRSP.

5.1.1 CUMULATIVE EFFECTS TO AGRICULTURAL RESOURCES

As categorized by the California Department of Conservation (DOC), the proposed project would change existing agricultural land uses in the project area from agriculture to *other land uses*, a category that includes land use changes for environmental purposes, land left idle for extended periods and lands that are taken out of production for any number of reasons. Farmland that is sold into public ownership and habitat restoration projects are included in this category. However, DOC does not track the reasons for a particular parcel's change in land uses.

The proposed project in combination with the other projects listed in Table 5-1 would restore approximately 2,527 acres to primarily native riparian habitat. Approximately 2,200 acres of this acreage was, or still is, in agricultural production. Restoration of riparian habitat and development of outdoor recreation facilities in the study area would be neither irreversible nor cause serious degradation or elimination of the physical or natural conditions that have provided the land's value for farming. The proposed project in combination with the other projects listed in Table 5-1 would not stop or hinder the agricultural practices that occur on neighboring properties. Implementation of the proposed project together with other planned similar projects would be consistent with current public policy directives for management of lands within the Inner River Zone. For all these reasons, implementation of the proposed project together with other planned projects would result in *no cumulatively significant impacts* to the agricultural resources present on the land in the study area.

5.1.2 CUMULATIVE EFFECTS TO HYDROLOGY, WATER QUALITY, AND RIVER GEOMORPHOLOGY

USACE and the Reclamation Board have proposed to increase flood protection and restore the Sacramento River floodplain along the west bank of the river near Hamilton City. This project would involve constructing a setback levee, removing most of the existing "J" levee that currently protects Hamilton City from river flooding, and restoring about 1,500 acres of native riparian vegetation in the levee setback area. The proposed setback levee north of the project area would be gradually reduced in height and would become a training dike where it crosses a narrow section of the west side of Capay Unit of the SRNWR. The 3-feet-high training dike would be designed to reduce high water velocities during flood events and allow flood waters to flow over the top of the levee and gently spread over the adjacent lands. The Capay Unit is located on the west side of the Sacramento River immediately west of the proposed project area.

The hydraulic modeling used in the analysis associated with the Hamilton City proposed project included several SRNWR units (i.e., Pine Creek, Capay, and Dead Man's Reach Units) proposed for native riparian habitat restoration (i.e., Sacramento River-Chico Landing Subreach Habitat Restoration Project). The modeling demonstrated that there is some potential for cumulative hydraulic effects to result from the restoration of SRNWR units that are near each other. While each unit's effects are localized, vegetation changes at individual units can combine to alter flow patterns and speeds (Ayres 2001 and 2002). However, the modeling conducted for

the Hamilton City project study indicated that the combined effects of planned changes in vegetation at the SRNWR units that are in near each other would not create substantial adverse effects (Ayres 2001 and 2002) and that downstream, levee freeboard would be maintained at the Reclamation Board–mandated minimum of 3 feet (Ayres 2003).

Modeling conducted for the proposed project predicted localized changes in flood stage elevations up to 0.10 foot. This small change does not represent an increase that would pose a significant risk to people, structures, or the operation of flood control infrastructure and does not violate existing regulations for risk to flood control infrastructure (Appendix B). Additionally, long term project-related changes in water quality would be expected to improve in areas restored from agricultural cultivation to native riparian habitat. Because modeling for the proposed project and other projects in the area indicated that the effects of individual restoration sites are localized and do not extend for long distances upstream or downstream, the proposed project and related projects would ***not result in significant cumulative*** hydraulic, geomorphic, or water quality effects on the Sacramento River flood hydrology.

5.1.3 CUMULATIVE EFFECTS TO CULTURAL RESOURCES

Mitigation Measures 4.5-a and 4.5-b from Section 4.5, “Cultural Resources,” would ensure the protection in place, or recovery and subsequent protection, of any significant cultural resources determined to be present in the project area that could be damaged by project-related activities. These management actions would ensure that the value of any historical resource in the project area would be preserved and that project activities would not contribute to any significant impact on cultural resources that may have accrued from disturbance or destruction of prehistoric or historic sites that is likely to have taken place before the enforcement of protections afforded by current laws such as CEQA. In addition, if any previously undiscovered cultural resources are found in the project area during proposed project implementation phases, mitigation described in Section 4.5 would be initiated that would prevent any significant cumulative impacts on cultural resources from occurring. Other habitat restoration and recreation facilities development projects listed in Table 5-1 would be required to protect undiscovered archaeological/cultural resources pursuant to CEQA; therefore, ***no cumulatively considerable impact*** to cultural resources would occur as a result of implementation of the proposed project together with other similar projects.

5.1.4 CUMULATIVE BENEFICIAL EFFECTS OF THE PROPOSED PROJECT TOGETHER WITH OTHER PROJECTS IN THE STUDY AREA

The proposed project together with other planned projects in the study area would reestablish long-term processes and functions present in riparian habitat communities, including the natural formation of soils that gave these lands their original agricultural value. Fully functioning riparian ecosystems are also known to improve groundwater and surface water quality by removing undesirable constituents such as nutrients and pesticides (Brown and Wood 2002). Restoration of native riparian habitat in the study area could benefit adjacent and downstream agricultural lands by diminishing the loss of soil from these lands onto adjacent or downstream locations and by increasing groundwater levels. Because the agricultural value of the soil is tied directly to the natural conditions and processes that existed before commercial agricultural development of the land, habitat restoration efforts would in effect be preserving (and possibly improving over time) the agricultural value of the soils (Cannon 2004, Tilman et al. 1996 and 2002).

Sensitive habitats, including Great Valley willow scrub, Great Valley cottonwood riparian forest, and freshwater marsh, are present adjacent to the project area. In addition, six special-status plant species have potential to occur in riparian and freshwater marsh habitats adjacent to the project area. The proposed project together with other planned projects in the area would result in a long-term increase in the overall amount of sensitive habitat within the area. Therefore, ***cumulative effects would be beneficial*** to vegetation, including sensitive habitats and special-status plants and wildlife. Restoration of cultivated orchard to native riparian habitat, which supports a greater diversity and abundance of wildlife, including many special-status species, would result in long-term beneficial effects to wildlife. Additionally, the proposed project, together with other planned projects in the area, would enhance wildlife

movement along the Sacramento River. Restoration of agricultural lands to natural riparian areas would result in long-term cumulative beneficial effects to fish in the Sacramento River by increasing structural complexity in the aquatic environment, improving water quality, and providing cover, food, and other habitat components. Therefore, cumulative impacts are also considered beneficial to fish habitat and special-status fish species.

5.2 COORDINATED MANAGEMENT EFFORTS FOR THE MIDDLE REACHES OF THE SACRAMENTO RIVER

5.2.1 CONSISTENCY OF THE PROPOSED PROJECT WITH THE CALFED PROGRAM RECORD OF DECISION

As described in the introductory chapters of this Draft EIR, the proposed project would be funded by a CALFED Program ERP grant (ERP-02-P16D¹). The ERP is among the set of linked programmatic actions comprising the Preferred Program Alternative to be implemented over a 30-year period (2000–2030) across two-thirds of the State of California. The ROD for the approval of the CALFED Program documents the final selection of the Preferred Program Alternative from the CALFED Final PEIS/EIR. The ROD includes a summary list of programmatic actions designed to achieve the objectives of the ERP. The most applicable of these actions to the proposed project specifies protection and restoration of the Sacramento River meander corridor consistent with SRCA river corridor management plans and processes (CALFED 2000a). The proposed project is a CALFED Program ERP project that is consistent with the CALFED Program ROD. As described in Chapter 3, “Description of the Proposed Project,” this proposed project has goals and objectives that overlap with those of other related and coordinated programs—including the CALFED Program—that incorporate management of resources along the middle Sacramento River.

¹ The CALFED Program ERP has provided a funding source for projects that include those involving acquisition of lands within the SRCA, initial baseline monitoring and preliminary restoration planning, and preparation of long-term habitat restoration management and monitoring plans.